L8 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1981:209467 CAPLUS
DN 94:209467
TI Polysulfide chain terminator
IN Schenk, William N.
PA Goodrich, B. F., Co., USA
SO U.S., 5 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4258212	A	19810324	US 1979-104227	19791217
	WO 8101705	A1	19810625	WO 1980-US1542	19801117
	W: JP, NO				
	RW: CH, DE, FR, GB, NL, SE				
	JP 56501762	T2	19811203	JP 1981-500409	19801117
	EP 42851	A1	19820106	EP 1981-900162	19801117
	R: CH, DE, FR, GB, NL, SE				
	CA 1144574	A1	19830412	CA 1980-365430	19801125
	BE 886567	A1	19810401	BE 1980-203102	19801209
	ES 497826	A1	19811116	ES 1980-497826	19801216
	NO 8102664	A	19810806	NO 1981-2664	19810806
PRAI	US 1979-104227		19791217		
	WO 1980-US1542		19801117		

AB Hydroxy-containing di- and trisulfides, useful as chain terminators for hydroxy-terminated liquid polymers, are prepared in a 2-step process. Thus, 29.3 lb HSCH2CH2OH [**60-24-2**] were mixed with 17.6 lb H2O(temperature maintained at 10°), treated with 18.2 lb H2O2 [**7722-84-1**], mixed with enough NaOH to maintain pH at 8(temperature maintained at < 20°), and warmed to room temperature to give HOCH2CH2SSCH2CH2OH(I) [**1892-29-1**] which was treated with 0.28 lb S, heated to 100° with temperature increase < 1°/min, and heated 1 h at 100° to give 97% yield 95:5 mixture of I and (HOCH2CH2C)2S [4428-14-2].

L8 ANSWER 2 OF 3 USPATFULL on STN
AN 81:16540 USPATFULL
TI Process for preparing polysulfide chain terminator
IN Schenk, William N., Peninsula, OH, United States
PA The B. F. Goodrich Company, Akron, OH, United States (U.S. corporation)
PI US 4258212 19810324
AI US 1979-104227 19791217 (6)
DT Utility
FS Granted
EXNAM Primary Examiner: Daus, Donald G.; Assistant Examiner: Eakin, M. C.
LREP Lobo, Alfred D., Powell, Jr., J. Hughes
CLMN Number of Claims: 6
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 368
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A process is disclosed for preparing a mixture of hydroxyl containing di- and trisulfides, from either 2-mercaptoethanol or 3-mercaptopropanol, directly in two steps, without the formation of deleterious byproducts. Precise control of process conditions (a) in a first step in which the disulfide is formed, includes oxidation of mercapto-lower alkanol with a stoichiometric amount of H.sub.2 O.sub.2 while maintaining the pH and temperature of a relatively dilute aqueous reaction mixture within a specific narrow range; and, (b) in a second step in which a predetermined portion of the disulfide is converted substantially exclusively to the trisulfide, requires controlled heating of the reaction mixture to a temperature not to exceed 100° C.

The process may be carried out in a single reaction vessel, and directly yields a preselected distribution of disulfide and trisulfide in the mixture. The mixture is especially useful as a chain terminator in the preparation of hydroxyl-terminated liquid polymers having an aliphatic polymeric backbone and sulfide linkages near the terminal portions of the polymer molecule (referred to as "HTPS" polymers).

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L8 ANSWER 3 OF 3 CA COPYRIGHT 2004 ACS on STN
AN 94:209467 CA
TI Polysulfide chain terminator
IN Schenk, William N.
PA Goodrich, B. F., Co., USA
SO U.S., 5 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4258212	A	19810324	US 1979-104227	19791217
	WO 8101705	A1	19810625	WO 1980-US1542	19801117
	W: JP, NO				
	RW: CH, DE, FR, GB, NL, SE				
	JP 56501762	T2	19811203	JP 1981-500409	19801117
	EP 42851	A1	19820106	EP 1981-900162	19801117
	R: CH, DE, FR, GB, NL, SE				
	CA 1144574	A1	19830412	CA 1980-365430	19801125
	BE 886567	A1	19810401	BE 1980-203102	19801209
	ES 497826	A1	19811116	ES 1980-497826	19801216
	NO 8102664	A	19810806	NO 1981-2664	19810806
PRAI	US 1979-104227		19791217		
	WO 1980-US1542		19801117		

AB Hydroxy-containing di- and trisulfides, useful as chain terminators for hydroxy-terminated liquid polymers, are prepared in a 2-step process. Thus, 29.3 lb HSCH2CH2OH [**60-24-2**] were mixed with 17.6 lb H2O(temperature maintained at 10°), treated with 18.2 lb H2O2 [**7722-84-1**], mixed with enough NaOH to maintain pH at 8(temperature maintained at < 20°), and warmed to room temperature to give HOCH2CH2SSCH2CH2OH(I) [**1892-29-1**] which was treated with 0.28 lb S, heated to 100° with temperature increase < 1°/min, and heated 1 h at 100° to give 97% yield 95:5 mixture of I and (HOCH2CH2C)2S [4428-14-2].

L14 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 1
AN 1992:135528 CAPLUS
DN 116:135528
TI Performance-oriented packaging standards; changes to classification, hazard communication, packaging and handling requirements based on UN standards and agency initiative
CS United States Dept. of Transportation, Washington, DC, 20590-0001, USA
SO Federal Register (1990), 55(246), 52402-729, 21 Dec 1990
CODEN: FEREAC; ISSN: 0097-6326
DT Journal
LA English
AB The hazardous materials regulations under the Federal Hazardous Materials Transportation Act are revised based on the United Nations recommendations on the transport of dangerous goods. The regulations cover the classification of materials, packaging requirements, and package marking, labeling, and shipping documentation, as well as transportation modes and handling, and incident reporting. Performance-oriented stds. are adopted for packaging for bulk and nonbulk transportation, and SI units of measurement generally replace US customary units. Hazardous material descriptions and proper shipping names are tabulated together with hazard class, identification nos., packing group, label required, special provisions, packaging authorizations, quantity limitations, and vessel stowage requirements.

L17 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 1
AN 1991:627802 CAPLUS
DN 115:227802
TI Method for determination of glutamic acid and/or glutamine with a potentiometric biosensor
IN Weissbach, Franz; Huber, Johann; Kreibich, Guenther; Richter, Sigrid
PA VE Forschungszentrum Biotechnologie Berlin, Germany
SO Ger. (East), 5 pp.
CODEN: GEXXA8
DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DD 290664	A5	19910606	DD 1989-336253	19891222
PRAI	DD 1989-336253		19891222		

AB Escherichia coli containing glutamic acid decarboxylase and glutaminase is immobilized on a CO2 biosensor. E. coli is treated for a short period, e.g. 10-150 s, before or after immobilization, with an inhibitor, e.g. Hg compds., to ensure maximum measurement time.

L17 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 2
AN 1987:151946 CAPLUS
DN 106:151946
TI Assay of enzyme effectors
AU Dolmanova, I. F.; Shekhovtsova, T. N.; Kucheryaeva, V. V.
CS M. V. Lomonosov Moscow State Univ., Moscow, USSR
SO Talanta (1987), 34(1), 201-5
CODEN: TLNTA2; ISSN: 0039-9140
DT Journal
LA English
AB The effects of various classes of organic compds. and of metal ions on the catalytic activity of horseradish peroxidase in H2O2 catalyzed o-dianisidine oxidation and, on the activity of alkaline phosphatase in p-nitrophenyl phosphate hydrolysis were studied. Enzymic methods have been developed for determination of S compds. at 10-5-10-4 M, N compds. at 2 + 10-7-3 + 10-5 M, Hg at 3 + 10-7 μg/mL and Pb at 6 + 10-4 μg/mL concentration

L17 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 3
AN 1970:9708 CAPLUS
DN 72:9708
TI Proposed mechanism for the differential radiosensitivity of the immature rat testis
AU Ellis, Legrande C.; Baptista, Mario H.
CS Utah State Univ., Logan, UT, USA
SO U. S. At. Energy Comm. (1969), COO-1602-14, 49 pp. Avail.: Dep.; CFSTI From: Nucl. Sci. Abstr. 1969, 23(16), 31640
CODEN: XAERAK
DT Report
LA English
AB Lipid peroxidn. by rat testicular tissue was studied as it related to androgen synthesis, aging, x-irradiation and the action of some antioxidants and radioprotective agents on the testis. The peroxidn. of lipids increased with age and was depressed by hypophysectomy. Ascorbic acid, mercaptoethanol, H2O2, NADPH, glucose 6-phosphate, oxygen, D-α-tocopherol, melatonin, and some prostaglandins were investigated with respect to their action on steroid biotransformations and lipid peroxidn. The differences between the action of the above compds. on lipid peroxidn. and steroid biotransformations by adrenal and testicular tissue were pointed out. Similarities in the pathways for the synthesis of lipid peroxides and steroid biotransformations were pointed out. A mechanism was proposed to explain the action of the antioxidants and

radioprotective agents on androgen synthesis and lipid peroxidn. The apparent role of lipid peroxidn. in malonaldehyde production, prostaglandin synthesis and S metabolism was indicated. Similarly, an action of prostaglandins on androgen synthesis and lipid peroxidn. was demonstrated. The action of antioxidants and radioprotective compds. on the testis were discussed as they related to cellular activity within the male gonad as th eir actions related to aging and x-irradiation damage. Mechanisms were proposed to explain the differential in sensitivity that exists for cell types within the testis to radiation damage based on free radicals, S metabolism, glutathione reductase, and antioxidants.

L23 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 1
AN 2003:215259 CAPLUS
DN 139:52592
TI Determination of •OH, O2•-, and Hydroperoxide Yields in Ozone Reactions in Aqueous Solution
AU Flyunt, Roman; Leitzke, Achim; Mark, Gertraud; Mvula, Eino; Reisz, Erika; Schick, Roland; von Sonntag, Clemens
CS Max-Planck-Institut fuer Strahlenchemie, Muelheim an der Ruhr, D-45413, Germany
SO Journal of Physical Chemistry B (2003), 107(30), 7242-7253
CODEN: JPCBFK; ISSN: 1520-6106
PB American Chemical Society
DT Journal
LA English
OS CASREACT 139:52592
AB In ozone reactions in aqueous solns., •OH and O2•- are often generated as short-lived intermediates and hydroperoxides are formed as labile or stable final products. Tertiary butanol reacts with ozone only very slowly but readily with •OH. In the presence of dioxygen, formaldehyde is a prominent final product, 30 ± 4%, whose ready determination can be used as an assay for •OH. Although DMSO reacts much more readily with ozone, its fast reaction with •OH which gives rise to methanesulfinic acid can also be applied for the determination of •OH, at least in fast ozone reactions. The formation of O2•- can be assayed with tetranitromethane (TNM), which yields nitroform anion (NF-) at close to diffusion-controlled rates. TNM is stable in neutral and acid solution but hydrolyzes in basic solution (k = 2.7 M-1 s-1), giving rise to NF- plus nitrate ion (62%) and CO2 plus 4 nitrite ions (38%). TNM reacts with O3 (k = 10 M-1 s-1), yielding 4 mol of nitrate (plus CO2) and 4 mol of O3 are consumed in this reaction. NF- reacts with O3 (k = 1.4 + 104 M-1 s-1) by O-transfer. The resulting products, (NO2)3CO- and (NO2)2C:O, rapidly hydrolyze (k > 10 s-1), and most of the nitrite released is further oxidized by ozone to nitrate. In the case of slow ozone reactions, these reactions have to be taken into account; i.e. the NO3- yield has to be measured as well. For the determination of hydroperoxides, Fe2+-based assays are fraught with considerable potential errors. Reliable data may be obtained with molybdate-activated iodide. The kinetics of this reaction can also be used for the characterization of hydroperoxides. Reactive hydroperoxides undergo rapid O-transfer to sulfides, e.g., k[HC(O)OOH + (HOCH2CH2)2S] = 220 M-1 s-1, and the corresponding reaction with methionine may be used for their quantification (detection of methionine sulfoxide by HPLC). Distinction of organic hydroperoxides and H2O2 by elimination of the latter by reaction with catalase can often be used with advantage but fails with formic peracid, which reacts quite readily with catalase (k = 1.3 + 10-3 dm3 mg-1 s-1). Some examples of •OH and O2•- formation in ozone reactions are given.
RE.CNT 95 THERE ARE 95 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L23 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 2
AN 2002:902177 CAPLUS
DN 137:381260
TI Variable release pesticidal microcapsules
IN Shirley, Ian Malcolm; Van Koppenhagen, Juanita Elena; Scher, Herbert Benson; Follows, Richard; Wade, Philip; Earley, Fergus Gerard Paul; Shirley, Dianne Beth
PA Syngenta Ltd., UK
SO U.S., 16 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6485736	B1	20021126	US 2000-656718	20000907
PRAI	US 2000-656718		20000907		

AB Microcapsules capable of a variable rate of release of a liquid core material, which is substantially insol. in **water**, comprise one or more pesticides as the core material encapsulated within a solid permeable shell of a polymer resin comprising one or more disulfide linkages, wherein the liquid core material is gradually released by diffusion through the solid permeable shell in a first environment that does not cleave the disulfide linkages; and wherein the liquid core material is quickly released in a second environment that cleaves the disulfide linkages (e.g., when the microcapsule is ingested by a harmful insect) . The median particle size of the microcapsule is from 8.0 μm to 13.6 μm.

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L23 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 3
AN 1995:566399 CAPLUS
DN 123:142311
TI Effects on the endogenous thiols and disulfides of steeping barley in solutions of dormancy-breaking substances
AU Pheifer, J Hugh; Briggs, Dennis E.
CS School Biochemistry, University Birmingham, Birmingham, B15 2TT, UK
SO Journal of the Institute of Brewing (1995), 101(2), 95-107
CODEN: JINBAL; ISSN: 0046-9750
DT Journal
LA English
AB Conditions were optimized for overcoming dormancy by steeping barley in solns. of Pr mercaptan, British anti-lewisite (BAL), thiourea, 2-mercaptoethanol, and bis-(2-hydroxyethyldisulfide). The ability of the last compound to break dormancy may have been due to the living tissues of the grain, which rapidly reduced it to a thiol. Dormant barley germinated more slowly than the mature barley when steeped in hydrogen peroxide (0.75%), but although the level of glutathione was lower in the embryos of mature grains than in those of dormant grains after 24-h steeping, while the level of cysteine was higher after 48-h steeping, the levels of oxidized glutathione and cystine were essentially the same. Steeping in solns. of BAL retarded the germination of mature grains and accelerated the germination of dormant grains so that germination with the two types of grain, after steeping in a solution of BAL, was nearly synchronous. There were no significant differences between the levels of the thiols and disulfides in the embryos of dormant and mature grains germinating after a steep in BAL. BAL evidently reduced all endogenous disulfides in the embryos. Decorticated grains took up BAL from solution and, when sufficient thiol had been present in the initial steep, released part of it into washing **water**. Part of the BAL was unaccounted for, evidently it had been metabolized by the grains. Results of staining sections of steeped grains with monobromobimane and viewing under UV light to locate thiols agreed with this conclusion. Analyses of micromalts prepared by steeping dormant and mature grains with and without BAL showed that BAL retarded the modification of mature grain but accelerated the modification of dormant grain without, however, improving the performance to give a malt equal in quality to that of **water**-steeped, mature grain.

L30 ANSWER 1 OF 6 USPATFULL on STN
AN 2003:225195 USPATFULL
TI Aromatic substituted nonionic surfactants in soil prevention, reduction or removal in treatment zones
IN Hei, Robert D.P., Baldwin, WI, UNITED STATES
Besse, Michael E., Golden Valley, MN, UNITED STATES
PA Ecolab Inc. (U.S. corporation)
PI US 2003157006 A1 20030821
AI US 2001-995367 A1 20011127 (9)
DT Utility
FS APPLICATION
LREP MERCHANT & GOULD PC, P.O. BOX 2903, MINNEAPOLIS, MN, 55402-0903
CLMN Number of Claims: 57
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 1125
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Disclosed is a process for the treatment of a plant gaseous stream containing odor compounds including hydrogen **sulfide**, an alkyl mercaptan or an alkyl thiol and mixtures thereof by contacting the plant stream with an oxidizing agent that reduces the odor but forms elemental sulfur. The elemental sulfur, and other inorganic, scales that form, or deposit, can be suppressed or removed using a specific aromatic substituted nonionic surfactant material. The use of such a process produces a significant improvement in odor quality while maintaining a clean process facility and low operating pressure drop.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L30 ANSWER 2 OF 6 USPATFULL on STN
AN 2002:332439 USPATFULL
TI Deodorant and process for deodorization using said deodorant
IN Hamaguchi, Takayoshi, Chiba-ken, JAPAN
Minato, Kazuyuki, Chiba-ken, JAPAN
Matsumoto, Toshimi, Ibaraki-ken, JAPAN
Shimomura, Tadashi, Chiba-ken, JAPAN
PA Mitsubishi Gas Chemical Company, Inc., Tokyo, JAPAN (non-U.S. corporation)
PI US 6495096 B1 20021217
AI US 1998-124839 19980730 (9)
DT Utility
FS GRANTED
EXNAM Primary Examiner: Thornton, Krisanne
LREP Antonelli, Terry, Stout & Kraus, LLP
CLMN Number of Claims: 33
ECL Exemplary Claim: 1
DRWN 12 Drawing Figure(s); 7 Drawing Page(s)
LN.CNT 1014
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A deodorant, for substances containing hydrogen **sulfide** or mercaptans, which includes a combination of a **peroxide** and a nitrate ion, a combination of a **peroxide**, a nitrate ion and a metal salt, or a combination of a chelating agent and one of the above combinations, and a process for deodorization comprising treating a substance for treatment, containing hydrogen **sulfide** or mercaptans, with the above deodorant. Smell caused by hydrogen **sulfide** or mercaptans is effectively removed by the deodorant. Smell from waste water, sludge, and water discharged from washing apparatuses can be efficiently removed with use of the deodorant in a small amount in accordance with this process.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L30 ANSWER 3 OF 6 USPATFULL on STN
AN 2002:69551 USPATFULL
TI In situ gas scrubbing method and system for odor and corrosion control in wastewater collection systems
IN Castrantas, Harry M., Newtown, PA, United States
Duggan, Scott W., Laguna Niguel, CA, United States
PA FMC Corporation, Philadelphia, PA, United States (U.S. corporation)
PI US 6365099 B1 20020402
AI US 1998-190532 19981112 (9)
DT Utility
FS GRANTED
EXNAM Primary Examiner: McKane, Elizabeth
LREP Martin, Michael E., Baker, Patrick C.
CLMN Number of Claims: 12
ECL Exemplary Claim: 1
DRWN 3 Drawing Figure(s); 3 Drawing Page(s)
LN.CNT 724
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A process and system for reducing the concentration of odorous contaminants, primarily hydrogen **sulfide**, in the vapor spaces of sewage handling and treatment systems, primarily the vapor spaces of sewage trunk lines, by injecting a fine spray, mist or fog of a dilute solution of hydrogen **peroxide** and a base selected from a group consisting of sodium hydroxide, potassium hydroxide, ammonium hydroxide and sodium carbonate to mix intimately with the vapor flow. The **peroxide** and base solutions may be pre-mixed and diluted with water and injected through atomizing nozzles utilizing compressed air as an atomizing fluid. The system may also provide for separate storage of the **peroxide** and base solutions, mixing of the **peroxide** and base solutions with dilution water with in-line mixing devices and direct injection with or without compressed air atomization into the vapor space. Sewage trunk lines, in particular, are treated at a substantial distance upstream of the sewage treatment facility to allow for adequate reaction time to reduce the concentration of the contaminant and reduce loading and corrosion on sewage treatment and foul air handling and scrubbing equipment.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L30 ANSWER 4 OF 6 USPATFULL on STN
AN 2002:19453 USPATFULL
TI Reductive combustion of ammonium salts of sulfuric acid
IN Lorbert, Stephen J., St. Louis, MO, United States
Willock, James M., Ballwin, MO, United States
Irvine, Lewis B., Chesterfield, MO, United States
Kapila, Shubhender, Rolla, MO, United States
Flanigan, Virgil J., Rolla, MO, United States
Nam, Paul K. S., Rolla, MO, United States
Liske, Yvonne M., Rolla, MO, United States
PA Novus International, Inc., St. Louis, MO, United States (U.S. corporation)
PI US 6342651 B1 20020129
AI US 2000-632999 20000804 (9)
PRAI US 1999-147751P 19990805 (60)
DT Utility
FS GRANTED
EXNAM Primary Examiner: Griffin, Steven P.; Assistant Examiner: Vandy, Timothy C.
LREP Senniger, Powers, Leavitt & Roedel
CLMN Number of Claims: 42
ECL Exemplary Claim: 1
DRWN 11 Drawing Figure(s); 10 Drawing Page(s)
LN.CNT 1724
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A process is provided for the combustion of ammonium salts of sulfuric acid contained in aqueous media. More particularly, a reductive combustion process which produces a combustion gas containing a divalent sulfur compound having a high concentration of hydrogen **sulfide** . The process is suitable for combusting ammonium salts of sulfuric acid produced during manufacture of 2-hydroxy-4-methylthiobutanoic acid (HMBA) or methionine. The divalent sulfur compounds in the combustion gas may be further converted to other useful sulfur products and recycled for use in the manufacture of HMBA or methionine.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L30 ANSWER 5 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 1
AN 1999:249015 CAPLUS
DN 130:271808
TI Method for deodorization of (waste)water containing sulfur odorous substances
IN Miyamoto, Masayuki; Morita, Hironari; Noai, Hiroaki
PA Nittetsu Mining Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11104660	A2	19990420	JP 1997-290324	19971007
	JP 3536118	B2	20040607		
PRAI	JP 1997-290324		19971007		

AB The method is carried out by adding poly(ferric sulfate), ferrous compound, magnesium salt, and hydrogen **peroxide** into the water to remove odorous substances, like **methylsulfide**, Me **disulfide**.

L30 ANSWER 6 OF 6 USPATFULL on STN
AN 1998:138841 USPATFULL
TI Lubricants and functional fluids containing heterocyclic compounds
IN Manka, John S., Euclid, OH, United States
Supp, James A., Parma, OH, United States
Fahmy, Mohamed G., Eastlake, OH, United States
PA The Lubrizol Corporation, Wickliffe, OH, United States (U.S. corporation)
PI US 5834407 19981110
AI US 1996-700975 19960821 (8)
DT Utility
FS Granted
EXNAM Primary Examiner: Howard, Jacqueline V.
LREP Shold, David M.
CLMN Number of Claims: 29
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 2141
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB This invention relates to a lubricating composition comprising a major amount of an oil of lubricating viscosity and a minor amount of

(A) a compound represented by the formula ##STR1## wherein in Formula (A-I): X.sup.1, X.sup.2 and X.sup.3 are independently O or S, and X.sup.2 and X.sup.3 can be NR.sup.1 wherein R.sup.1 is hydrogen or hydrocarbyl; and G.sup.1, G.sup.2, G.sup.3 and G.sup.4 are independently R.sup.2, OR.sup.2 or R.sup.3 OR.sup.2, wherein R.sup.2 is hydrogen or hydrocarbyl and R.sup.3 is hydrocarbylene or hydrocarbylidene. In one embodiment, the inventive composition further comprises (B) an acylated nitrogen-containing compound having a substituent of at least about 10 aliphatic carbon atoms. In one embodiment, the inventive composition

further comprises (C) a phosphorus compound. In one embodiment, the inventive composition further comprises (D) a thiocarbamate. In one embodiment, the inventive composition further comprises (E) a organic **sulfide**. In one embodiment, the invention relates to a process comprising mixing the foregoing component (A) with an oil of lubricating viscosity, and, optionally, one or more of the foregoing components (B), (C), (D) and/or (E).

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

(FILE 'HOME' ENTERED AT 16:45:01 ON 18 JUN 2004)

FILE 'REGISTRY' ENTERED AT 16:45:25 ON 18 JUN 2004

L1 2 S DITHIODIGLYCOL/CN
L2 1 S 2-MERCAPTOETHANOL/CN
L3 1 S HYDROGEN PEROXIDE/CN
L4 1 S SULFUR/CN
L5 1 S HYDROGEN SULFIDE/CN

FILE 'CAPLUS, USPATFULL, CA, CAOLD' ENTERED AT 16:48:00 ON 18 JUN 2004

L6 460 S L1 AND L2
L7 9 S L6 AND L3
L8 3 S L7 AND L4
L9 0 S L8 AND L5
L10 222 S L2 AND L4
L11 11 S L10 AND L3
L12 2 S L11 AND L5
L13 2 S L12 NOT L8
L14 1 DUP REM L13 (1 DUPLICATE REMOVED)
L15 8 S L11 NOT L8
L16 6 S L15 NOT L13
L17 3 DUP REM L16 (3 DUPLICATES REMOVED)
L18 29 S L1 AND L3
L19 8 S L18 AND WATER
L20 8 S L19 NOT L17
L21 7 S L20 NOT L8
L22 7 S L21 NOT L13
L23 3 DUP REM L22 (4 DUPLICATES REMOVED)
L24 2413 S SULFUR (P) ?MERCAP? (P) WATER
L25 572 S L24 AND PEROXIDE
L26 392 S L25 AND ?SULFIDE
L27 40 S L26 AND L5
L28 7 S L27 AND L3
L29 7 S L28 NOT L23
L30 6 DUP REM L29 (1 DUPLICATE REMOVED)
L31 258756 S L4
L32 1257 S L3 AND L4
L33 147 S L32 AND L5
L34 55 S L33 AND WATER
L35 20 S L34 AND ?MERCAPT?
L36 17 S L35 NOT L30
L37 17 S L36 NOT L8
L38 17 S L37 NOT L13
L39 17 S L38 NOT L17
L40 17 S L39 NOT L23
L41 11 DUP REM L40 (6 DUPLICATES REMOVED)